UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,649	06/26/2003	Oliver J. Young	1-73949	4672

27377 7590 03/28/2005

MACMILLAN, SOBANSKI & TODD, LLC
ONE MARITIME PLAZA-FOURTH FLOOR
720 WATER STREET
TOLEDO, OH 43604

EXAMINER	
PHAM, LAM P	

ART UNIT	PAPER NUMBER
2636	

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/606,649	YOUNG ET AL.	
	Examiner	Art Unit	
	Lam P Pham	2636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/29/03;11/02/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 1 objected to because of the following informalities: the first "said first member" should change to "said second member" in line 5 of claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-13 rejected under 35 U.S.C. 102(e) as being anticipated by Saunders et al. (US 2003/0220766A1).

Regards claim 1, Saunders disclose a sensor assembly for use in a vehicle seat cushion for detecting the presence of an occupant, said assembly comprising:

a first member (120) defining an internal bore;

a second member (118) having a portion slidably disposed in said bore such that said first member is movably mounted relative to said first member about an axis;

a spring (111) biasing said first member relative to said second member; and

a sensor device (Hall sensor 122, magnet 126) mounted in one of said first and second members as seen in Figures 2-4; [0032] to [0043].

Regards claim 2, Saunders disclose said sensor device is a magnet (126).

Regards claim 3, Saunders disclose further including a hall effect sensor (122) mounted relative to the other one of said first and second member and at a spaced position relative to said magnet, and wherein movement of said first member relative to said second member causes said hall effect sensor to detect the change in position of said magnet as seen in Figure 2; [0037] to [0040].

Regards claim 4, Saunders disclose said spring biases said first member relative to said second member in a direction parallel to said axis as seen in Figure 2; [0037].

Regards claim 5, Saunders disclose said spring is a coil spring, see Figure 2.

Regards claim 6, Saunders disclose said first member defines a stepped bore having a first internal diameter portion and a second internal diameter portion having a diameter less than the diameter of said first internal diameter portion, said stepped bore defining a shoulder between said first and second internal diameter portions, and wherein said portion of said second member includes an outwardly radially extending lip (flange 133) which is engageable with said shoulder to function as a stop to prevent movement of said first member relative to said second member as seen in Figure 2; [0037].

Regards claim 7, Saunders disclose said second member (118) defines a first external diameter portion slidably disposed adjacent said first internal diameter portion, and wherein said second member defines a second external diameter portion slidably disposed adjacent said second internal diameter portion as seen in Figure 2; [0037].

Regards claim 8, Saunders disclose said spring biases said lip against said shoulder as seen in Figure 2.

Regards claim 9, Saunders disclose said first member is adapted to be mounted on a sensor mat (substrate 113) including a hall effect sensor as seen in Figures 2-4; [0032].

Regards claim 10, Saunders disclose said sensor device is a magnet, and wherein said hall effect sensor is mounted relative to the other one of said first and second member and at a spaced position relative to said magnet such that movement of said first member relative to said second member causes said hall effect sensor to detect the position of said magnet as seen in Figure 2; [0032] to [0037].

Regards claim 11, Saunders disclose said first and second members define a spring chamber sized to accommodate different springs having different spring constants as seen in Figure 2;

Regards claim 12, Saunders disclose a method of assembling a sensor assembly for use in a vehicle seat cushion for detecting the presence of an occupant, the method comprising the steps of:

a. providing a sensor assembly having first and second members movably mounted relative to one another;

b. selecting one of a plurality of springs having different spring constants; for each sensor;

c. installing the one of a plurality of springs in the sensor assembly, such that the spring biases the first member relative to the second member;

d. installing a sensor device (122, 126) in one of the first and second members;

e. mounting the sensor assembly onto a mat (substrate 113) adjacent a hall effect sensor attached to the mat; and

f. installing the mat on a vehicle seat cushion as seen in Figures 2-4; [0032] to [0044].

Regards claim 13, Saunders disclose the sensor assembly of step (a) is a first sensor assembly, and wherein the method further includes the steps of:

g. providing a second sensor assembly including first and second members having the same dimensions as the first and second members of the first sensor assembly;

h. installing another one of a plurality of springs having a different spring constant than the spring installed in step (c);

i. installing a second sensor device in one of the first and second members of the second sensor assembly',

j. mounting the second sensor assembly onto the mat adjacent a second hall effect sensor attached to the mat; and

k. subsequently to step (j), installing the mat on the vehicle seat cushion as seen in Figures 2-4; [0032] to [0044].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 14-16 rejected under 35 U.S.C. 103(a) as being unpatentable over Saunders et al.

Regards claim 14, Saunders disclose a method of assembling a sensor assembly for use in a vehicle seat cushion for detecting the presence of an occupant, the method comprising the steps of:

a. providing a sensor assembly having tirst and second members movably mounted relative to one another;

b. installing a spring in the sensor assembly, such that the spring biases the first member relative to the second member; and

c. selecting one of a plurality of magnets having different gauss characteristics;

d. installing the one of a plurality of magnets in one of the first and second members;

e. mounting the sensor assembly onto a mat adjacent a hall effect sensor attached to the mat; and

f. installing the mat on a vehicle seat cushion as seen in Figures 2-4; [0032] to [0044].

Saunders fail to disclose expressly the step of selecting one of a plurality of magnets having different gauss characteristics. However, it would have been obvious to one of ordinary to realize that the step of selecting one of a plurality of magnets having different or similar gauss characteristics is an obvious step depending on the choice of design as how much weight being applied at different positions on the cushion.

Regards claim 15, Saunders disclose the one of a plurality of magnets is disposed in a bore formed in one of the first and second members; as seen in Figure 2;

However, Saunders fail to disclose one of a plurality of different sized plugs is disposed the bore to retain the one of a plurality of magnets. Since, Saunders disclose the magnet is retained securely inside the bore (135) as seen in Figure 2; [0037], it would have been obvious to one of ordinary skilled in the art to realize that whether the magnet is retained in the bore by the plugs or other means is an obvious choice of design.

Regards claim 16, Saunders disclose the sensor assembly of step (a) is a first sensor assembly, and wherein the method further includes the steps of:

g. providing a second sensor assembly including first and second members having the same dimensions as the first and second members of the first sensor assembly;

h. installing another one of a plurality of a plurality of magnets having a different gauss characteristic than the magnet installed in step (c); see explanation in claim 14.

i. mounting the second sensor assembly onto the mat adjacent a second hall effect sensor attached to the mat; and

j. subsequently to step (j), installing the mat on the vehicle seat cushion as seen in Figures 2-4; [0032] to [0044].

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lotito et al. (US 6129168) disclose a weight sensor for vehicular safety restraint system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lam P Pham whose telephone number is 571-272-2977. The examiner can normally be reached on 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery A Hofsass can be reached on 571-272-2981. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lam Pham
March 7, 2005.

JEFFERY HOFSASS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600